

## CLAIMS

1. A magnetic force generator comprising:  
a magnetic shell internally defining an armature chamber having  
an axis;  
at least three circumferential electric coils spaced axially within  
5 the chamber;  
an armature supported in the chamber for reciprocation on the  
axis, the armature including a plurality of aligned magnets separated by at  
least one intermediate magnetic steel plate sandwiched between like poles of  
adjoining magnets and a pair of end steel magnetic plates on opposite ends of  
10 the armature, the plates extending laterally to a periphery of the armature in  
general lateral alignment with the electric coils; and  
resilient members nominally centering the armature between non-  
magnetic ends of the chamber;  
controlled energizing of the coils being operative on the magnetic  
15 plates to reciprocate the armature axially in a controlled manner relative to  
the shell to develop an opposite inertia force on the shell for application to a  
connected body.
2. A magnetic force generator as in claim 1 wherein the resilient  
members are compression springs.
3. A magnetic force generator as in claim 1 wherein the number  
of aligned magnets is two.
4. A magnetic force generator as in claim 1 wherein the aligned  
magnets are ring magnets.

5. A magnetic force generator as in claim 1 wherein the number of the intermediate and end steel magnetic plates in the armature is equal to the number of the circumferential electric coils spaced within the shell.

6. A magnetic force generator as in claim 1 wherein the magnetic shell is part of a housing including non-magnetic end members closing the ends of the chamber.

7. A magnetic force generator comprising:  
a magnetic shell internally defining an armature chamber having an axis;  
at least three circumferential electric coils spaced axially within  
5 the chamber;  
an armature supported in the chamber for reciprocation on the axis, the armature including a plurality of aligned magnets separated by at least one intermediate magnetic steel plate sandwiched between like poles of adjoining magnets and a pair of end steel magnetic plates on opposite ends of  
10 the armature, the plates extending laterally to a periphery of the armature in general lateral alignment with the electric coils; and  
resilient members nominally centering the armature between ends of the chamber;  
controlled energizing of the coils being operative on the magnetic  
15 plates to reciprocate the armature axially in a controlled manner relative to the shell to develop an opposite inertia force on the shell for application to a connected body.